

Setting Goals and Achieving Aggressing Energy Savings

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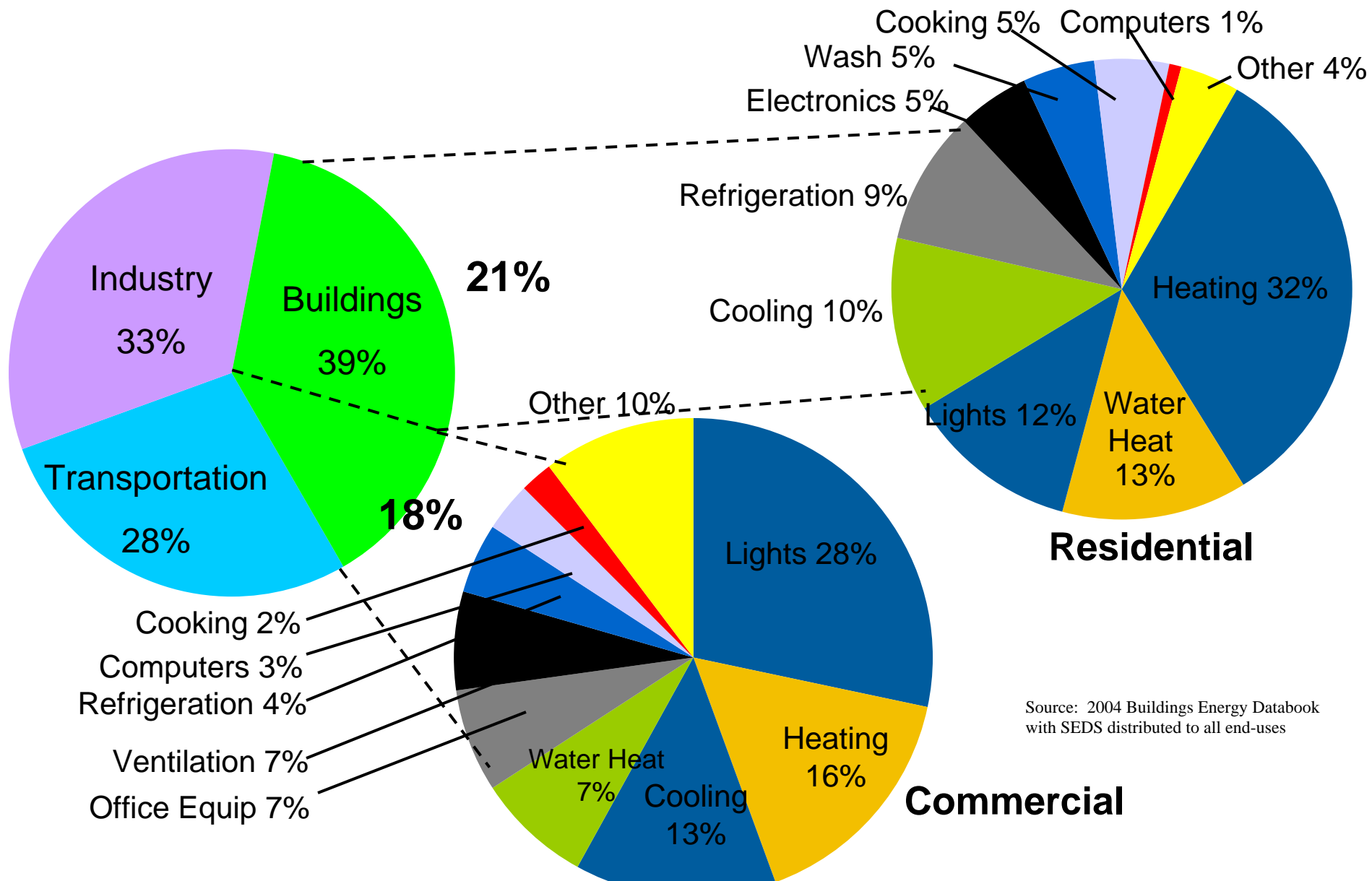
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14. ABSTRACT The potential for aggressive energy savings is achievable today. This discussion will look at setting and following through with goals working within financial constraints. We will also explore how new technologies help push the envelope for energy savings including better information flows and technologies. The key is putting the pieces together and aligning the technologies and the decision makers.					
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KEYNOTE ADDRESS
SETTING GOALS AND ACHIEVING AGGRESSIVE ENERGY SAVINGS

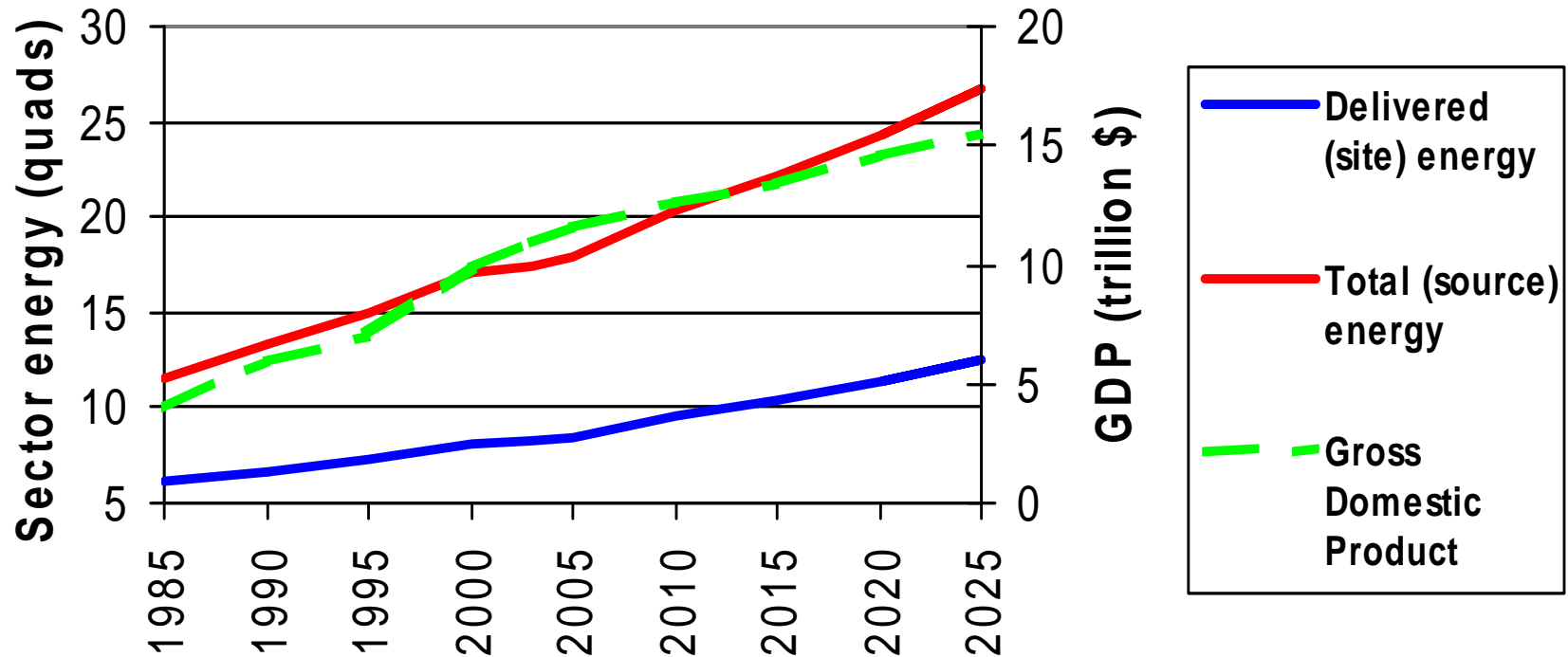
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Building Energy Use



Trend of Commercial Sector



Commercial Sector Energy Use is Growing at 1.6% per year

Growth is faster than energy efficiency measures

Remember the overall vision—reduce the impact of buildings.

Today's building's designs mortgage the energy future of this country.

Many Pieces

So many ways to
assemble the pieces

Design is about
making decisions –
need motivation to
make the right
decisions

And having a suite of
technologies



Setting Goals

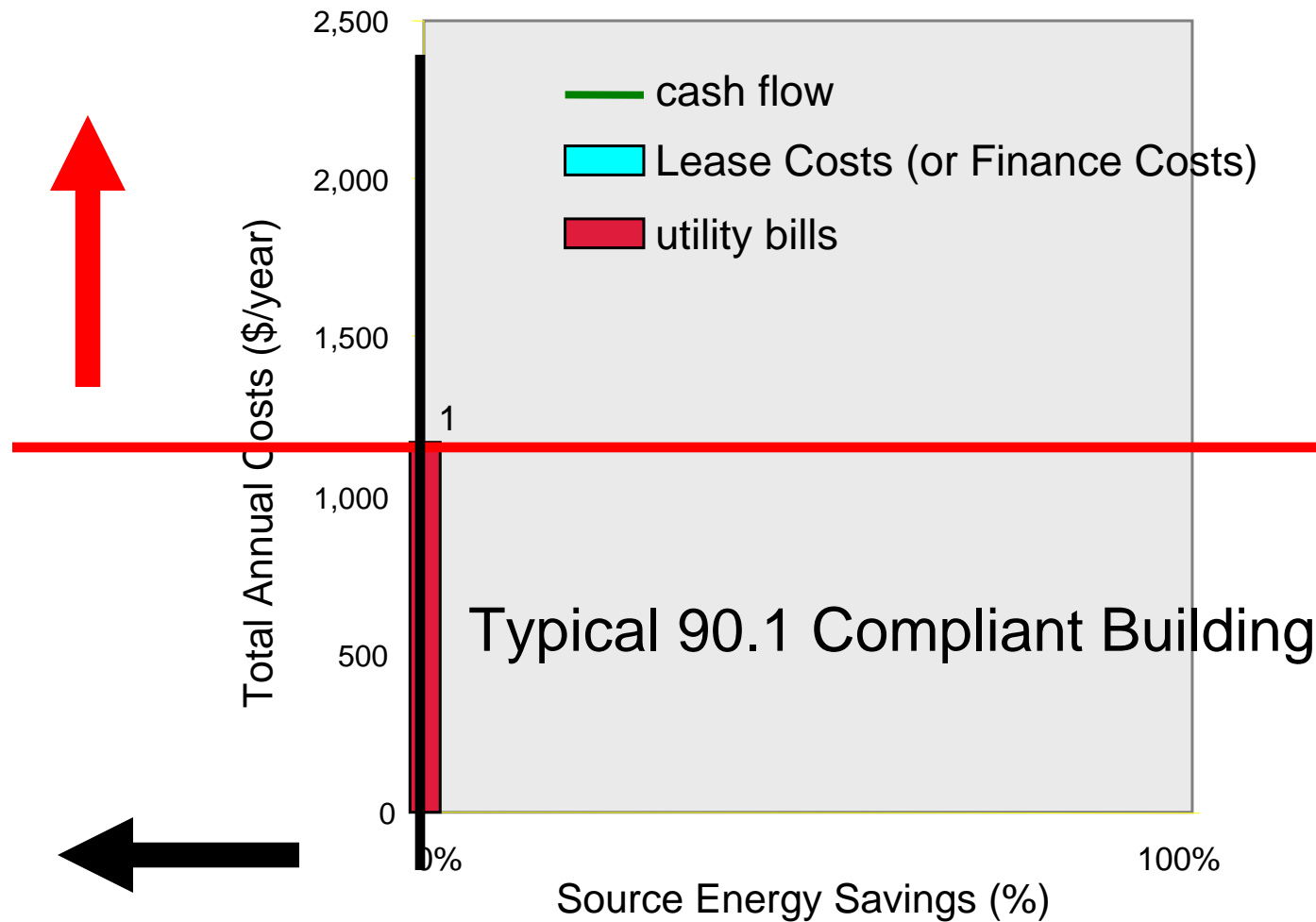
Measurable goals are better

From bad to good...

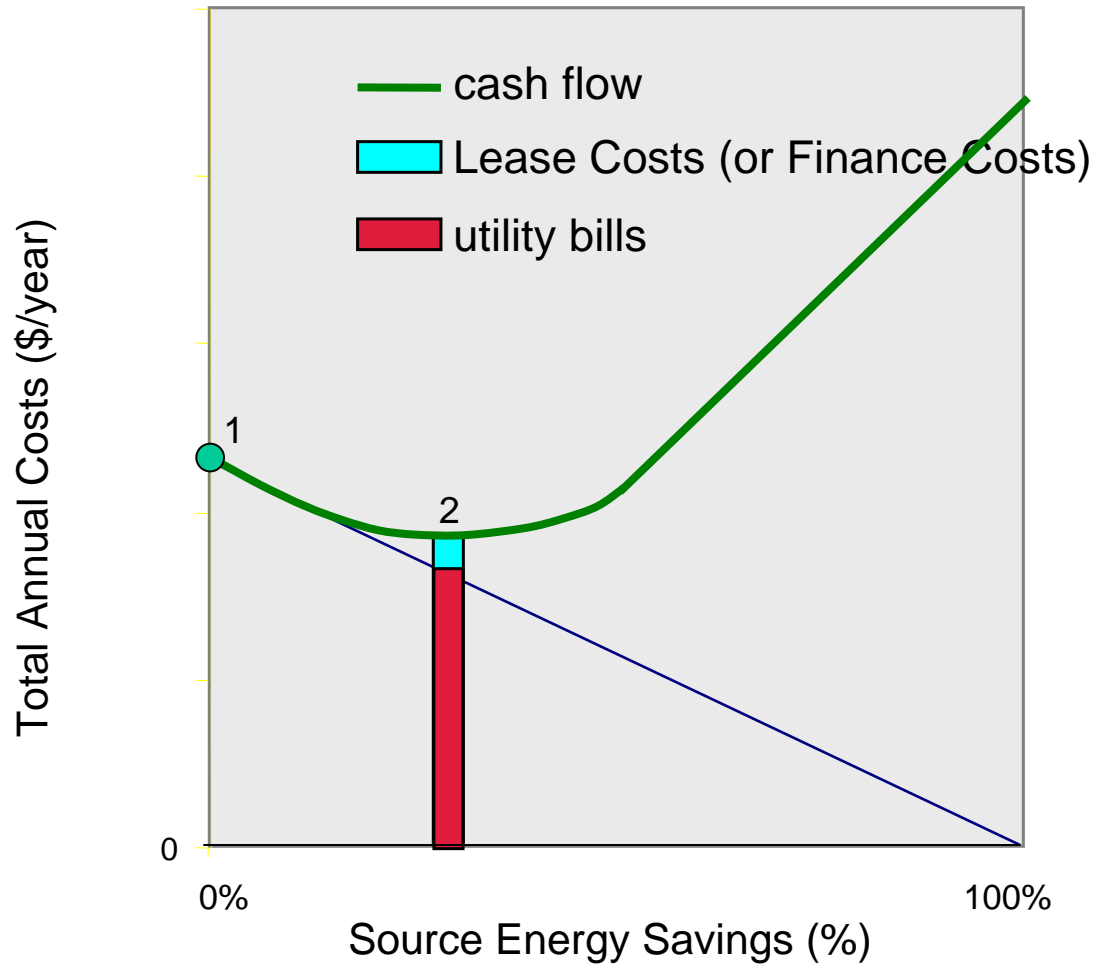
- I want a green building
- Design a LEED <rating> building
- Design a building to use 30% less energy than ASHRAE 90.1-2004
- Design a building to use less than 30,000 BTU/sqft
- Design a [NET] ZERO ENERGY BUILDING

Influencing purchasing decision—the owner

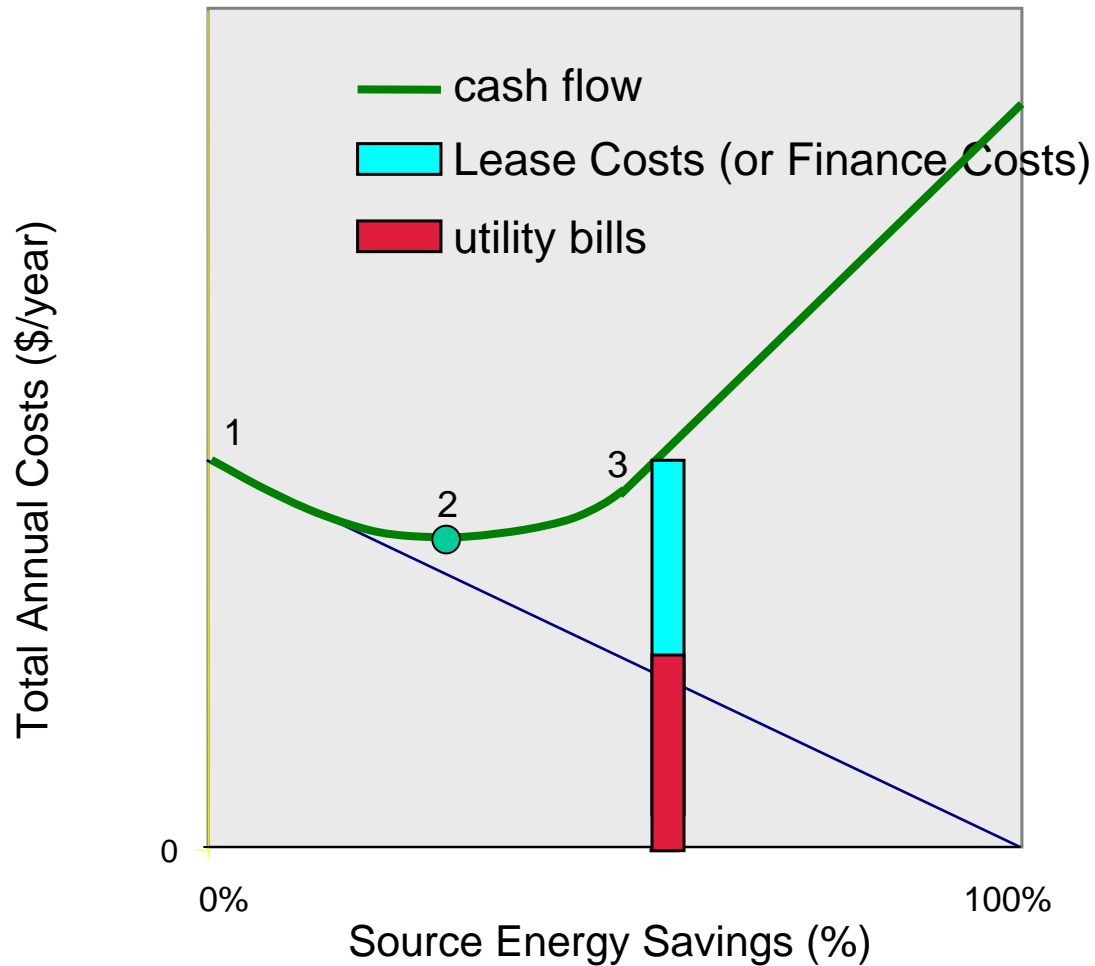
The Path to a Low Energy Building



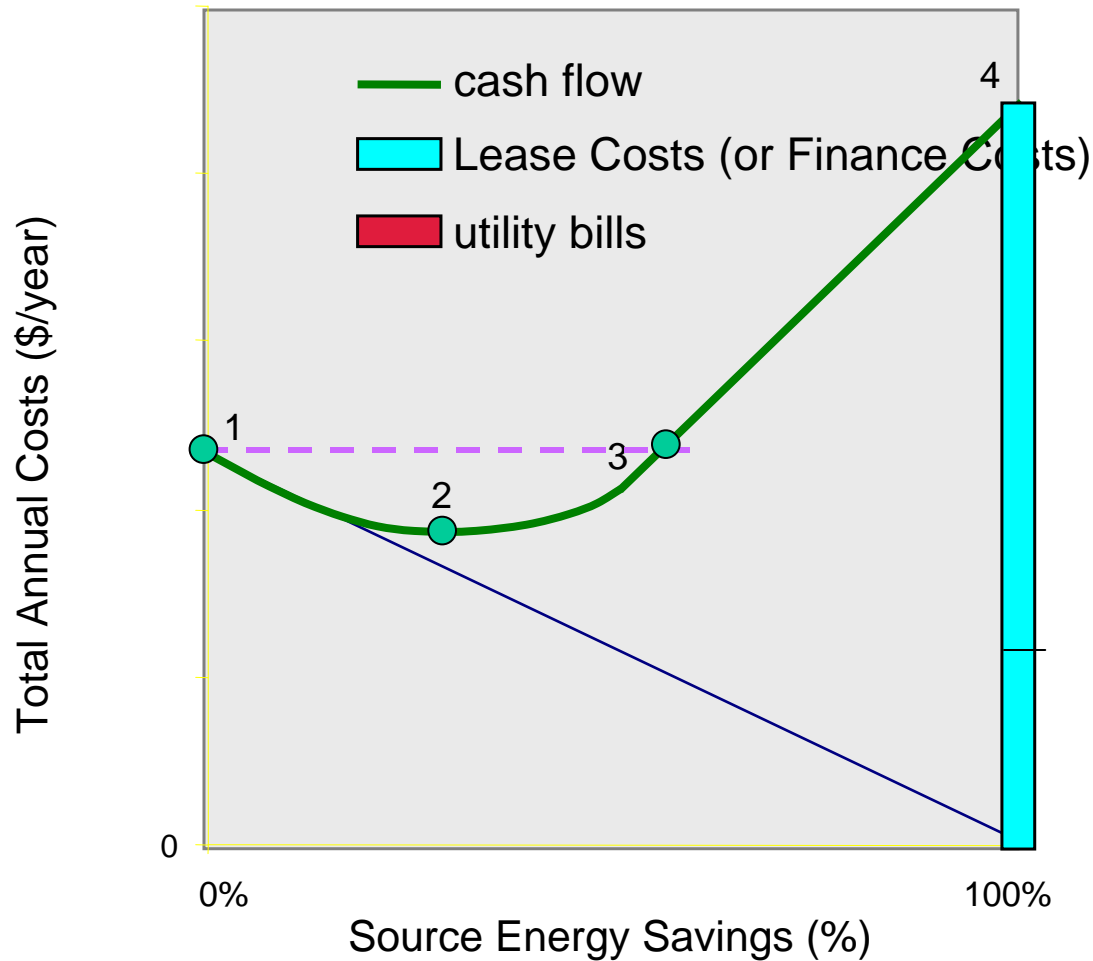
The Path to a Low Energy Building



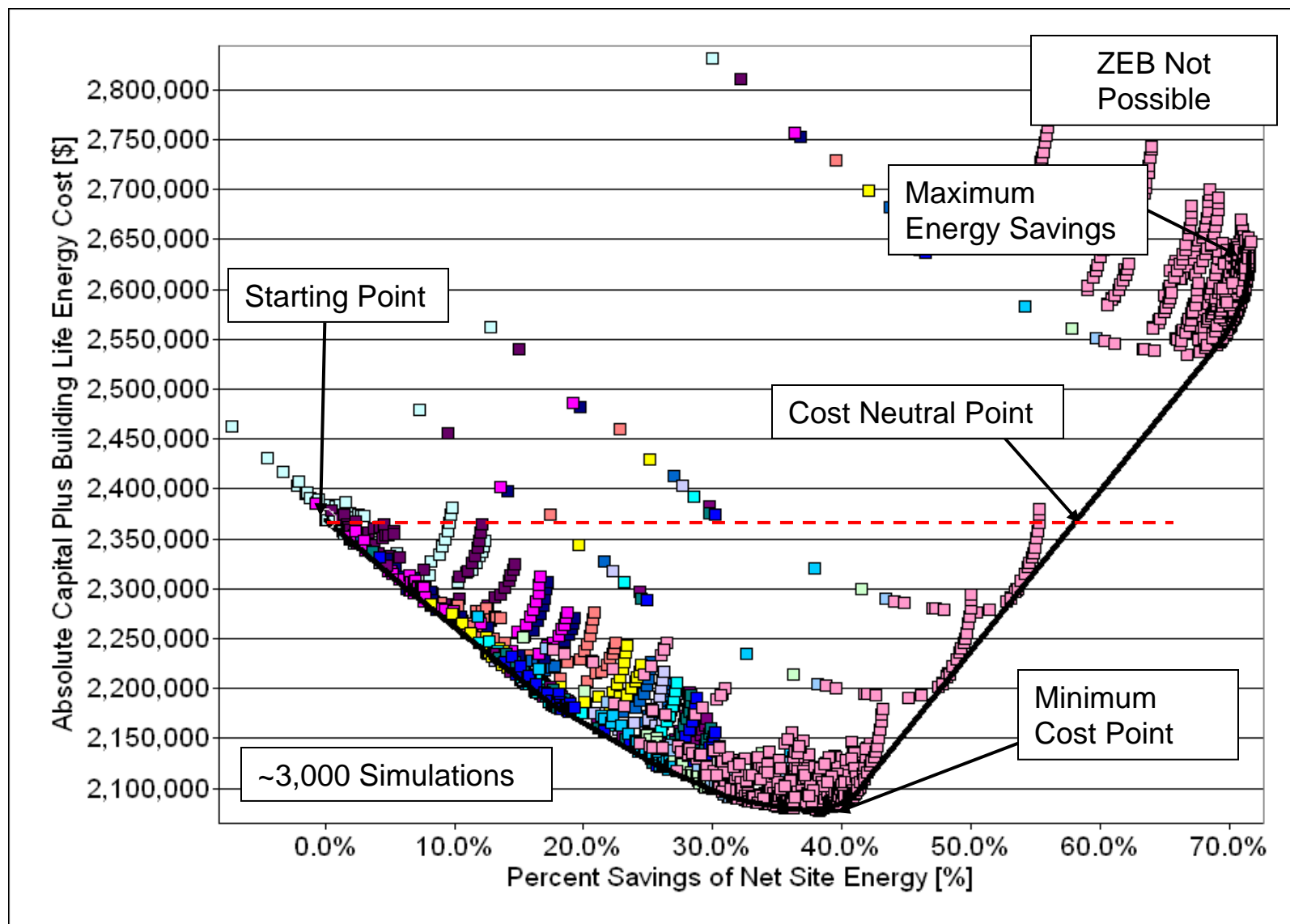
The Path to a Low Energy Building



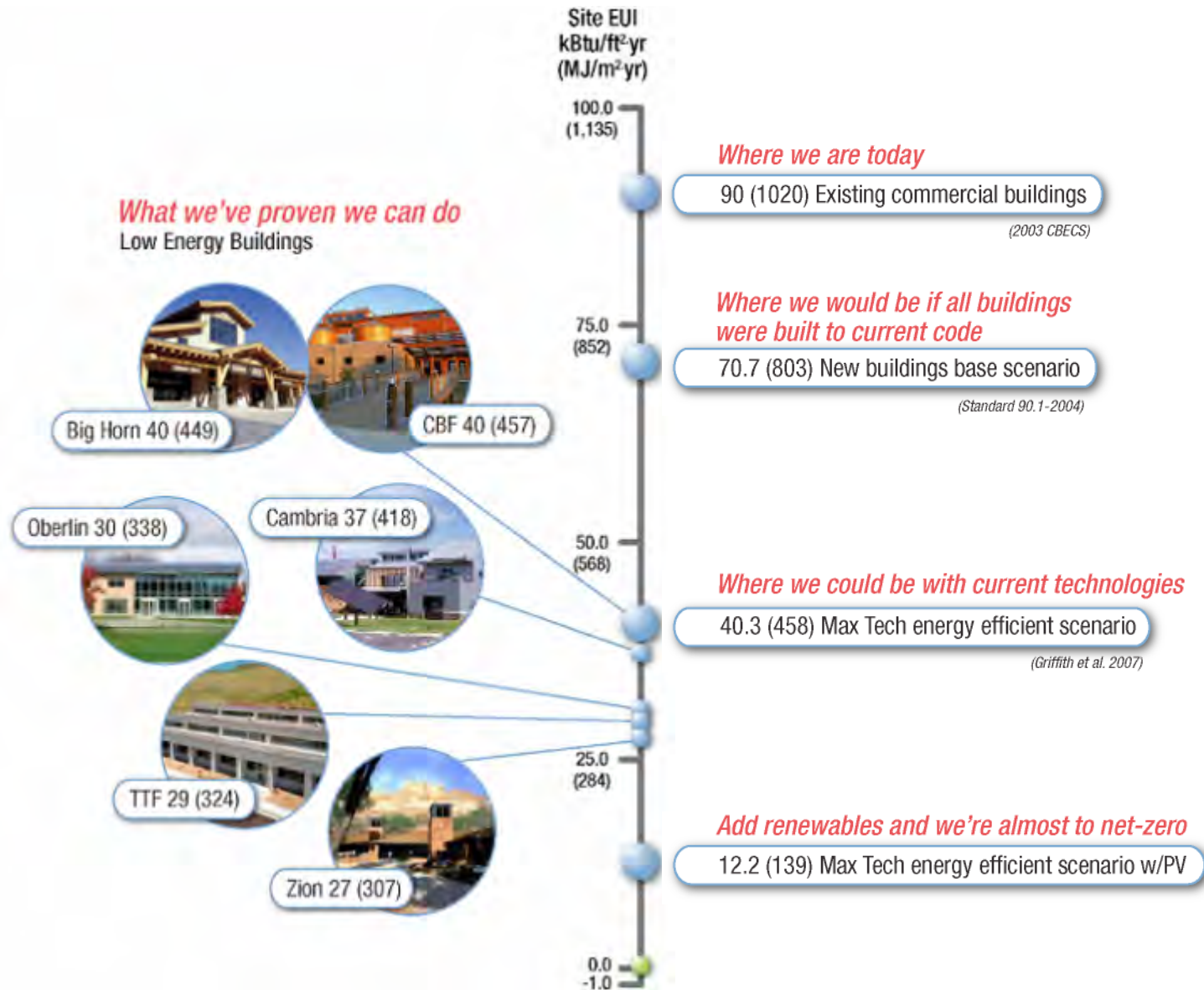
The Path to a Low Energy Building

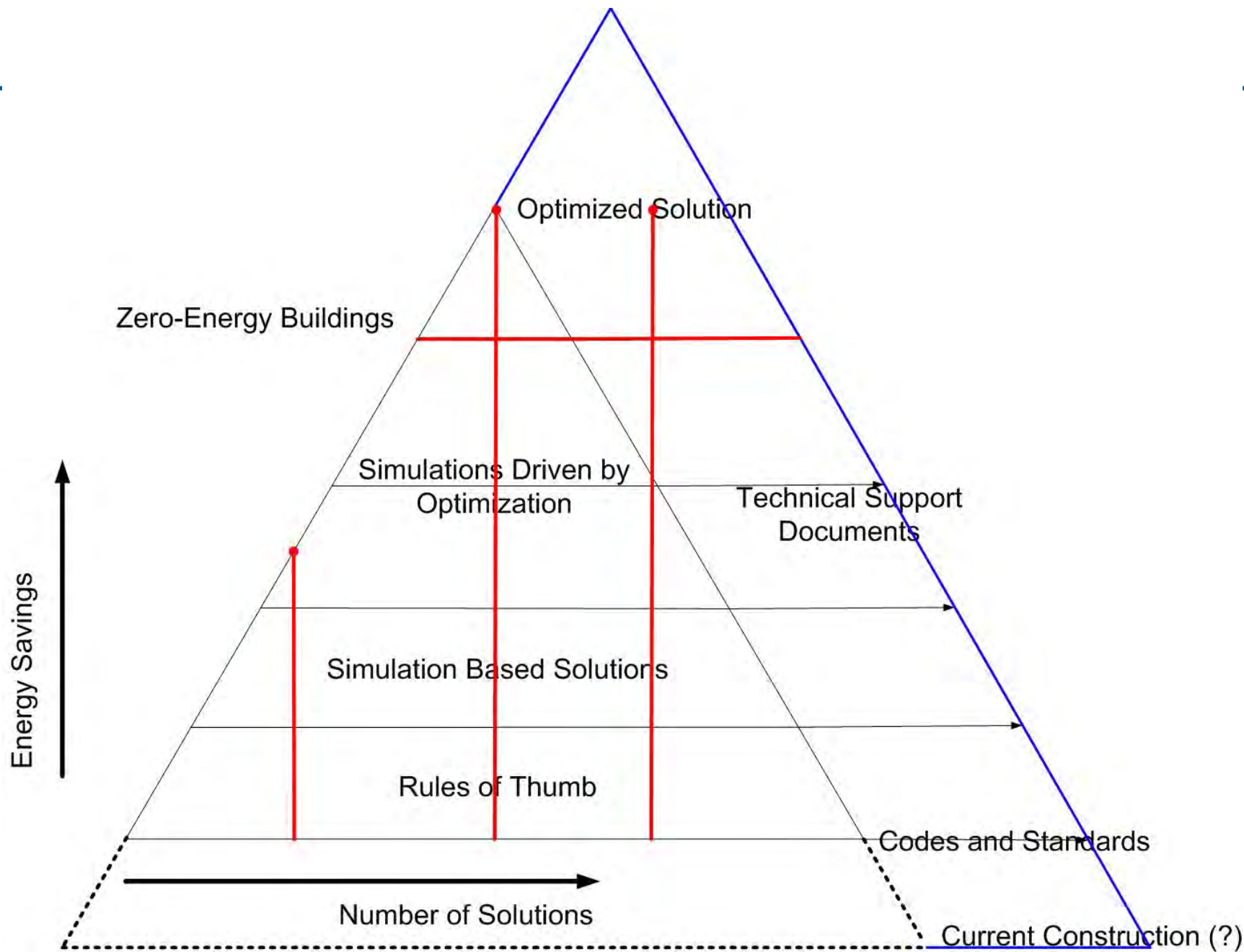


Optimization Curve



Great Potential in Commercial Buildings





NREL Research Support Facility



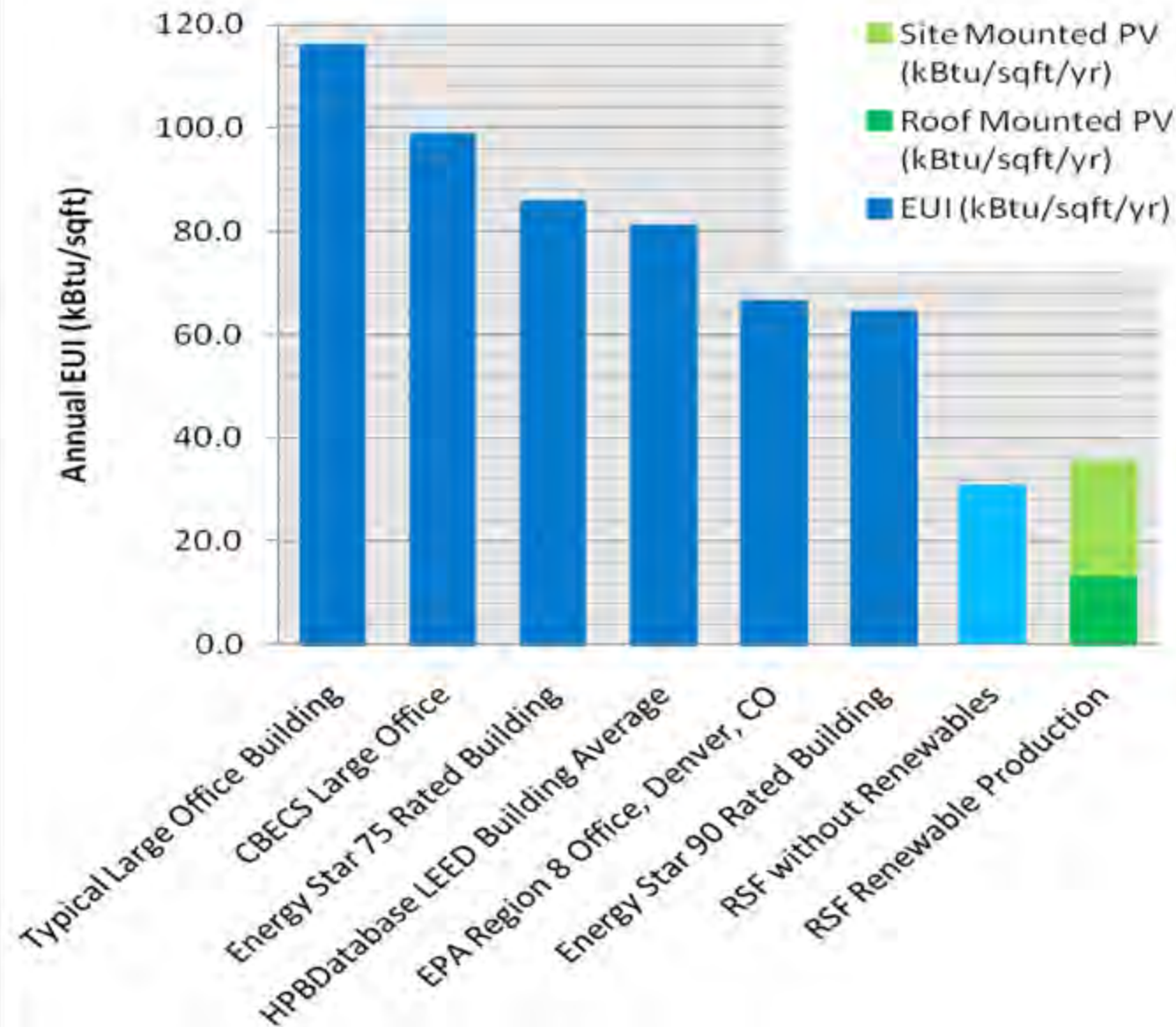
Project Goals

- LEED™ Platinum
- 800 Staff Capacity
- 25 kBTU/sf/yr
- Zero-Energy Building

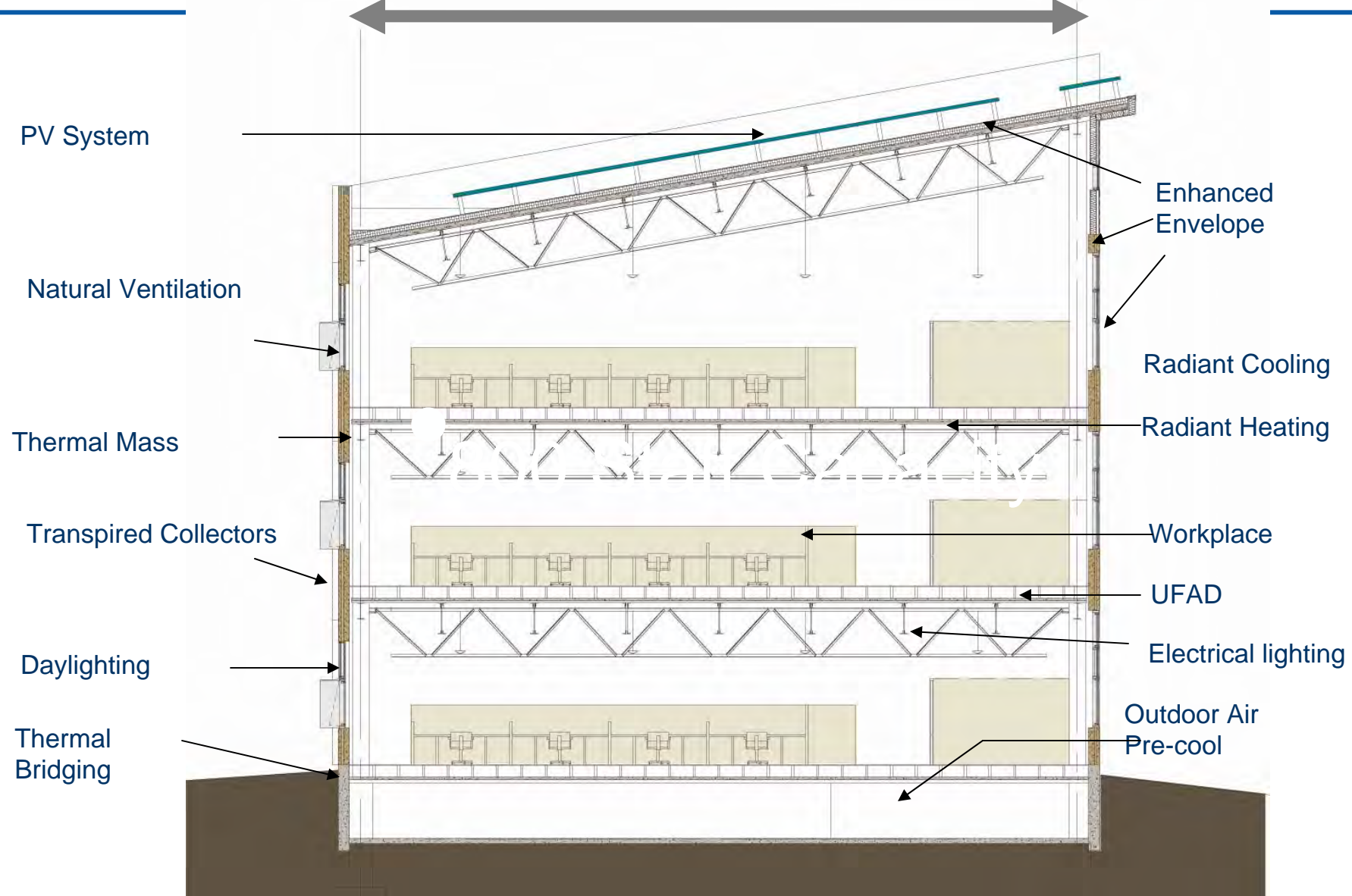
Includes:
Data Center



How Good is 25 kBtu/ft² ?



The Section (60-ft)



Tell Your Stories...

DOE's Building's Database

www.commercialbuildings.energy.gov

	Picture	Name	Owner	Location	Building Type	Floor Area (ft ²)	Annual Purchased Energy (kBtu/ft ²)
<input type="checkbox"/>		Aldo Leopold Legacy Center	The Aldo Leopold Foundation, Inc.	Baraboo, WI	Commercial office; Interpretive Center	11,900	-2.02
<input type="checkbox"/>		Audubon Center at Sibley Park	The National Audubon Society	Los Angeles, CA	Recreation; Interpretive Center; Park	5,020	
<input type="checkbox"/>		Challengerr Tennis Club	Whittier Foundation	Los Angeles, CA	Recreation	3,500	-0.0955
<input type="checkbox"/>		Environmental Techs. Center, Sonoma State	Sonoma State University	Rohnert Park, CA	Higher education; Laboratory	2,200	-1.47
<input type="checkbox"/>		Hawaii Gateway Energy Center	Natural Energy Laboratory of Hawaii Authority (NELHA)	Kailua-Kona, HI	Commercial office; Interpretive Center; Assembly; Other	3,500	-3.46
<input type="checkbox"/>		Oberlin College Lewis Center	Oberlin College	Oberlin, OH	Higher education; Library; Assembly; Campus	13,600	-4.23
<input type="checkbox"/>		Science House	Science Museum of Minnesota	St. Paul, MN	Interpretive Center	1,530	0
7 project(s)							



Aldo Leopold Legacy Center



Oberlin College Lewis Center

Questions?

www.nrel.gov/rsf

www.commercialbuildings.energy.gov